

540
Il 61a
no.1

ALUMNI NEWSLETTER

Department of CHEMISTRY and CHEMICAL ENGINEERING

UNIVERSITY OF ILLINOIS at Urbana

NO. 1, 1968

UNIVERSITY OF ILLINOIS
NOV 1 1968
LIBRARY

RECEIVED
FEB 18 1969
CHEMISTRY LIBRARY

Editor's Note

With this mailing, the Newsletter of the Department of Chemistry and Chemical Engineering at the University of Illinois in Urbana makes its initial bow. We will include on its mailing list all alumni of the Department and send it to them at frequent, but perhaps irregular, intervals. It will contain news of the entire University, but especially of our Department and its alumni. Its goal is to keep you in touch with the many developments that are taking place on the Urbana campus, and hopefully, to forge stronger links between us.

The desire to communicate has been here for a long time; some other things have been in the way. For the past several years, a large effort has been underway to obtain improved research facilities which will help us stay on top in our primary job of educating scientists in the fields of chemistry, biochemistry, and chemical engineering. The new laboratories and the subsequent renovation of a major part of the east half of Noyes Laboratory provide modern space for modern faculty and graduate student research. The excellence of this research and those who carry it out form the hallmark of this Department and this University in the chemical sciences. The Department carries a distinguished rating and the staff and students, as one, are determined that it will continue to hold that high station.

The Alumni Association of the University has established a class of membership called "Constituent Membership." This is a partnership of the general Alumni Association with the individual colleges and their departments. Your Department decided to enter this partnership because it provides several significant benefits. An important one is that the Alumni Association will assist us in maintaining records of all 5,000 of our alumni and in mailing materials to them. Another good feature is that for each of you who pays annual dues to the Alumni Association, we receive a two-dollar allotment to help us meet out-of-pocket expenses of the Newsletter or of other alumni related activities.

The Newsletter will be sent to all of you, whether or not you are members of the Alumni Association. There is no subscription fee as such, but an annual donation of five dollars from each of you, especially from those who are not members of the Alumni Association, would cover our costs and provide a positive balance which the Department would find very useful. The Illini Chemists Fund has been set up in the University of Illinois Foundation for this purpose as described in an enclosure.

The effort here on the home front is to continue to build a department which will prepare our new alumni for distinguished careers in their chosen fields. It is this contemporary history of work and achievement that the Newsletter will attempt to bring you. We feel that there are many ways in which you and we can be mutually helpful to each other; for example, we may be able to serve some of you through the Department Placement Service, which is under the able direction of Mrs. Margaret N. Durham. You, on

your side, can send us suggestions about improvements in our curriculum, and can direct good students to us, both at the graduate and undergraduate levels.

Your professional prestige depends to a considerable extent on the fact that you are graduates of this University and this Department; conversely, the reputation of the University and the Department rest to an even greater extent upon you.

We hope that this Newsletter will prompt you to write to us about yourselves and your chemical activities. If you know of alumni of our Department who do not receive the Newsletter, please send us their names and addresses, so that we can add them to our mailing list.

I am most grateful to Dr. Robert Lowstuter, Assistant to the Head of the Department, for his help in compiling this Newsletter. Without it, we might never have gone to press.

JOHN C. BAILAR, JR.

Greetings from the Head of the Department

A major part of our Department's strength rests with the many former graduate and undergraduate students, postdoctorals, and staff who are now located throughout the world. As the number of alumni has increased, the need has grown for more effective ways to maintain ties among us. So I am especially glad to have the opportunity to write a few words for this inaugural issue of the Illini Chemists' Newsletter.

Our purposes in starting a Newsletter are to some degree self serving. An essential point is that the quality of the Department is determined largely by that of its staff and students. Many of you have contributed to our strength by encouraging promising young people to come to Illinois. We urge you to continue the good work, and I hope that the Newsletter will help you keep your arguments and enthusiasm up to date.

The financial aspects, while not negligible, are of secondary importance. Last year the Department became a constituent member of the Alumni Association, which will help us with records and mailings and give us a share in the dues any of you may pay to it. In addition, we hope for enough annual donations to cover the remaining costs of the Newsletter and provide a modest surplus for one good cause or another.

As to good causes, a current one is freshman scholarships. For several years the Department has encouraged outstanding high school seniors to become chemists by awarding five \$500 freshman scholarships in a statewide competition. Funds for this purpose have been limited and hard to come by. Here, thanks are due to John Bailar, who has been the prime mover behind the recently announced Roger Adams Fund in Chemistry, which has already enabled us to double the number of scholarships awarded for next year.

Of course, the primary aim of the Newsletter is to keep you informed of the activities of the Department, its people, programs, and progress. Also, we

hope it can serve to keep alumni posted on each other's doing since leaving us, and to this end the best source of information is you, so let us know of your happenings. Finally, your reactions to this issue will be of special value to the Editor in keeping him on the right track; so don't hesitate to let him know your views. And with that homily, I turn you back to him.

H. S. GUTOWSKY

Change of Headship

Dr. Herbert E. Carter, our esteemed Head for the past thirteen years, accepted the position of Vice Chancellor for Academic Affairs of the Urbana Campus effective September 1, 1967. The Committee appointed by Dean Rogers of the College of Liberal Arts and Sciences selected Dr. Herbert S. Gutowsky to assume the Headship on September 1, 1967. Dr. Gutowsky is only the fourth head in over fifty years.

Since Dr. Gutowsky has been with the University of Illinois for only twenty years, some of you old timers may not know him quite as well as our recent graduates.

Dr. Gutowsky headed the Department's Division of Physical Chemistry from 1956-62 and was an associate member of the University's Center for Advanced Study in 1962-63. He was elected to the National Academy of Sciences in 1960.

In 1966 he received the American Chemical Society's Irving Langmuir Award in Chemical Physics, sponsored by the General Electric Company. The award was in recognition of his interdisciplinary research in chemistry and physics.

He was the first chemist to recognize the importance to chemistry of nuclear magnetic resonance, a phenomenon used by physicists to study the makeup and behavior of atoms and molecules.

His research has provided the experimental and theoretical basis for identification and analysis of complex chemical compounds, and for studying the course of very fast chemical reactions.

He was Chairman of the American Chemical Society's Division of Physical Chemistry in 1967, and in 1966 was Chairman of the National Science Foundation's Chemistry Panel.

He was on the National Academy of Sciences committee for the survey of chemistry from 1964-66, and from 1961-64 was Chairman of the Physical Chemistry Committee of the National Academy of Sciences-National Research Council Division of Chemistry and Technology.

He was on the editorial board of the *Journal of the American Chemical Society* from 1959-68, and currently is on the editorial board of the *Society's Chemical Monographs*. He is a past chairman of the Society's University of Illinois Section.

Dr. Gutowsky is author of more than 180 articles, mainly in the *Journal of Chemical Physics*, *Journal of the American Chemical Society*, and *Physical Review*.

In 1954-55 he was a Guggenheim Fellow. He also is a fellow of the American Physical Society and American Association for the Advancement of Science, member of Sigma Xi, Faraday Society, and American Association of University Professors.

He was born near Bridgman, Michigan, on November 8, 1919; graduated from high school in Hammond, Indiana, received his bachelor's degree with highest honors from Indiana University, master's from the University of California at Berkeley, and doctor's from Harvard.

Professor and Mrs. Gutowsky live at 508 South Ridgeway Street, Champaign, Illinois, and have three sons, Daniel, Robb, and Christopher.

As you can see, we picked a good successor to carry on the greatness established by Noyes, Adams, and Carter. We are indeed a fortunate lot to have been able to take a picture of our three on a day when they were all smiling in spite of the solemnity of the occasion.

Herbert E. Carter, Rager Adams, Herbert S. Gutowsky.



Departmental Reorganization

The Department has had a long and successful history organized into six operating divisions. Nevertheless, during the last decade there arose considerable question as to whether this arrangement gave us the flexibility requisite to deal with the changing scene in chemistry. An increasing proportion of modern chemistry is not classifiable by means of the traditional divisions, and "inter-divisional" appointments can be administratively awkward. Therefore, in 1963 a committee consisting of Herbert S. Gutowsky, Nelson J. Leonard, and Harry G. Drickamer was asked to analyze the situation and make recommendations.

The Committee felt that there was much to be gained by reorganizing the four traditional divisions of chemistry into a single "Chemistry Division." Biochemistry and Chemical Engineering, however, seemed to have a sufficient number of special problems to warrant their operation as separate entities. As to the four traditional divisions, it was recommended that the duties then performed by them on a divisional basis be administered by committees of the Chemistry Division.

These recommendations were the subject of considerable discussion, both formal and informal, on the part of the staff. Although the feeling was not unanimous, the large majority of the staff favored implementing, in a general way, the recommendations of the Committee.

Accordingly, under Dr. Carter's leadership, a stagewise process of change was initiated. The first stage involved a Committee on Staff to analyze our needs, find appropriate candidates, and make recommendations concerning hiring. Under Dr. Carter, and more recently under Dr. Gutowsky, the functions on a chemistry-wide basis have been expanded to include promotions, service, advising of students, courses and curricula, financial aid to students and to faculty, and other activities.

As of the 1968-69 school year, most of the divisional aspects will have been replaced by functional committees. Some operations, such as the details of our cumulative preliminary examinations, will continue to have a subject-area flavor. Lowell P. Hager, James W. Westwater, and David Y. Curtin will continue as Heads of the Biochemistry, Chemical Engineering, and Chemistry Divisions, respectively, with Dr. Curtin serving as Associate Head of the Department.

The success of every form of organization, of course, depends ultimately on the ability and the good will of the people who must collaborate in it. We feel, however, that the present plan puts us in a position to face the challenges of chemical education and research in a more flexible and imaginative manner, and could assist an excellent department to become the very best.

First Addition to East Chemistry Building

Although the organic and analytical chemists moved into their spanking new research building in January, 1967, this is the first full school year for this new facility. It took the building chairman, Dr. Herbert Laitinen, and his committee four years and a lot of help from the University and others to get it built. It is a splendid building, and several university chemistry departments have sent representatives to look it over in anticipation of using some of the new concepts in their own designs. Because there are still some old houses around it, it is next to impossible to get a good picture for you, but the views included here may give you a general impression of its appearance. The ACS publication, *Analytical Chemistry*, featured the building in its January, 1968, issue. This article does a good job of describing some of the unique features, but we add here a brief description for those of you who may not have seen that publication.

The new addition, which extends from the original part of the East Chemistry Building in a southeasterly direction, houses all of the research in analytical and organic chemistry as well as the Microanalytical Laboratory, the Molecular Spectroscopy Laboratory, a High-pressure Reaction Cell, and the Machine Shop. A small amount of space is being used for instructional laboratories in analytical chemistry, but the building is primarily a research facility.

The modular design of the building, with extensive use of movable metal partitions, allows maximum flexibility in the use patterns which may develop

The First Addition to the East Chemistry Building, viewed from the southeast. The penthouse contains ventilating and other auxiliary machinery. The older part of the East Chemistry Building is not visible in this picture.





Mobile Laboratory Furniture Designed for Addition to East Chemistry Building.



Electronic Instrumentation Laboratory.

in the future in the new laboratory areas. Each basic laboratory module, a 10 foot by 30 foot space, is supplied with all the laboratory services. Probably the most useful of the new services available at laboratory stations throughout the building is gaseous nitrogen. The "boil-off" from our liquid nitrogen storage tank is piped at 30 p.s.i. to each station, providing high-purity nitrogen at very low cost. Other generally available services include hot and cold water, steam, compressed air, house vacuum, and natural gas.

In the areas used for organic chemistry research, standard research laboratories, made up of double modules, 20 feet by 30 feet, are designed to accommodate four research workers. Each man has a writing desk with book shelves, conventional laboratory bench area, a section of low-bench rack type working area, and a six-foot fume hood for his exclusive use. Room for instrumentation is scattered throughout the building. The analytical chemistry area is, in general, less standardized with respect to the placement of partitions than is the organic chemistry area, illustrating the flexibility inherent in the modular design of the building.

The exhaust ventilation of these completely air-conditioned laboratories is entirely *via* the fume hoods. Filtered, humidity-controlled hot and cold air is supplied by vertical ducts to each module and mixed, in proportions controlled by a thermostat in the module, to provide the desired temperature.

Extensive use of Flexiframe channel in the construction of the laboratories makes it very easy to mount an aluminum rod framework on walls, reagent shelves, or in hoods in a few minutes.

Some laboratory bench units are mounted on wheels, making them easily movable to produce new configurations of storage space and working surface, depending on the current usage of the laboratory. These movable units are easily locked into place to provide sturdy working surfaces. The design of the analytical chemistry research area makes heavier use of these movable units than does that of the organic chemistry area.

Laboratory wall surfaces are finished with a low maintenance baked-enamel finish. Floors are covered with linoleum, a material with surprising chemical resistance. The furniture is of wood construction with working surfaces of an asbestos cement aggregate coated with a very resistant resinous finish material.

Important safety features include a safety island on each floor, containing an assortment of items such as gas masks and first-aid supplies. There are also manual and automatic fire alarm systems connected directly to the University Fire Department, a "panic button" by each door which sounds a loud buzzer to summon aid for an injured research worker, and safety showers and eye baths outside each laboratory door.

The new building has not only made it possible to increase greatly the efficiency of research operations of those groups housed in it, but, in providing new, high quality space for such service laboratories as the Molecular Spectroscopy Laboratory, has provided a substantial new impetus to all research in the Department. The new facilities for nmr spectroscopy are particularly impressive. A special air-conditioning unit provides superb temperature control ($\pm 0.3^\circ \text{F.}$) for the laboratory, while a mechanically refrigerated circulating water supply system provides constant-temperature water for magnet cooling.

Our pleasure in occupying these pleasant, well-lighted, efficient new laboratories has served to heighten the impatience with which we await the day when the projected newer additions to the East Chemistry Building will allow the housing of the entire Department in a single building with similar facilities.

Noyes Laboratory

As soon as the organic and analytical chemists moved out of Noyes Laboratory, the carpenters, plumbers, and electricians moved into it. Portions of the east half of the building are being remodeled, primarily for the use of the inorganic chemists, at a cost of \$600,000. The National Science Foundation picked up \$200,000 of the cost with a special remodeling grant; the balance is being provided from University funds. You have to open the laboratory doors to see the difference, for the halls are quite unchanged from those that are so familiar to all of you. The changes inside the laboratories, however, are almost unbelievable — the rooms are air-conditioned, beautifully lighted, and equipped with new hoods and modern desks. This work is far from complete, but it has gone far enough to show what the building will be like. The instructional laboratories for organic and physical chemistry and most of those for analytical chemistry remain in Noyes Laboratory, and those for biochemistry have been moved back to Noyes. It is hoped that before long the laboratories in the non-fireproof half of the building can be moved. The De-

partment has dreamed of having all of its laboratory work in fireproof quarters for many years, but each addition to the plant seems simply to accommodate an ever-growing staff and student body. With the completion of the First Addition to the East Chemistry Building, a small part of Noyes Laboratory has been turned over to other departments of the University.

The Chemistry Library has been completely remodeled and the reading space has been approximately doubled. The big lecture hall, Room 100, still looks the same, but the Physical Plant Department tells us that a complete renovation is planned for it. We may be able to show you a picture of a "new" lecture hall in the next issue of the Newsletter.

Some Recent Developments in the General Chemistry Program

During the 1966-67 school year, several changes were made in the general chemistry program. Fewer courses are now offered, but it is believed that they better fit the needs of the students. The current course structure is:

For Non-Majors:

Chemistry 100 (2 hours). A remedial course for students who are inadequately prepared for college chemistry.

Chemistry 101-102 (8 hours). A general course, including about eight weeks of organic and biochemistry, for students who have had a year of high school chemistry. Students wishing to major in chemistry after taking Chemistry 101-102 take a course in quantitative analysis (*Chemistry 122*) to bridge the gap between the non-major sequence and the chemistry curriculum.

For Majors:

Chemistry 107-108 is evolving slowly. The laboratory program is being re-studied in view of the core laboratory program which has been developed for the second and third years. It emphasizes quantitative work and problem solving with both qualitative and quantitative unknowns. Honors level texts are being used with emphasis on thermodynamics and bonding. In order to qualify for admission to this sequence, a student must have had a year of high school chemistry and be ready for calculus.

During the summer of 1967, a series of fourteen audio-tutorial lessons was prepared for Chemistry 100. Beginning students received audio-taped instructions in a new facility in 308 Noyes Laboratory, which they use in conjunction with syllabi, a laboratory bench, and library and display materials in the same room. Each lesson is planned to take two or three hours, but the student may spend as much time as he likes. During the summer of 1968, an ambitious program of preparing TV taped lectures for trial with one section of Chemistry 101-102 will be undertaken and will be part of a summer teaching project. Color films of demonstrations will be used wherever the black

and white television picture would be unsatisfactory. Professors Rinehart, Haight, and Meyer are preparing the lectures.

Some other recent activities in general chemistry are:

1. Computer assisted instruction for elementary courses is being investigated by two graduate students.

2. The compilation of a film library of lecture demonstrations is in the formative stage.

3. Audio-tutorial materials are being developed for Chemistry 101, and for possible use in a comparable course at the Chicago Circle Campus.

Hopefully, teaching aids developed here will be made accessible to other teachers and institutions around the state and nation.

General chemistry is staffed by senior members of the faculty. Most of these are from the inorganic area, but the physical chemists contribute, too. In addition, two visiting assistant professors are engaged on staggered two-year appointments. Currently, the incumbents are recent Ph.D.'s who are here to gain additional experience in teaching beginning courses. These are Dr. Stanley Crouch, who took his degree at Illinois last year in analytical chemistry, and Dr. James Meyer, who came to us from Northwestern University. In the fall, Dr. Crouch will move on to Michigan State, and Dr. Bassam Shakhshiri from the University of Maryland will take his place.

One visiting professor, on leave from a smaller school, comes each year on a one-year appointment. During the 1967-68 school year, Professor Thomas Dunne of Reed College filled this position; Professor Jay M. Anderson from Bryn Mawr College will be here in 1968-69. These men contribute greatly to our program, for they bring us new points of view and different approaches to the teaching of general chemistry.

The Core Laboratory Program

During the last two years, the faculty of the Department of Chemistry and Chemical Engineering has been engaged in a major program of realignment of the basic undergraduate laboratory work. This program involves not only a change in organization of material, but also a major change in course content and direction. Throughout the 1966-67 academic year, a faculty committee worked on the development of the new courses, and a wide representation of the faculty added to their efforts through submission of new experiments. During the summer of 1967, Professors Peter Beak, T. L. Brown, W. H. Flygare, and Jiri Jonas, aided by Professor William Crump of Albion College, met for several days to evaluate, develop, and test new experiments, and to discuss course content, objectives, and organization. The result of this effort was a proposal for a new set of undergraduate laboratory courses covering three semesters in the sophomore and junior years, and which we refer to as the core laboratory program. The new course program will be taught beginning in the fall of 1968.

Content and Organization of the New Core Laboratory Program

The core laboratory program consists of a sequence of three courses, credited separately from the lecture courses which will normally be taken concurrently. The three courses are as follows:

Chemistry 281 — Structure and Synthesis. To be taken concurrently with the first semester of organic chemistry lecture. One four-hour laboratory period per week, plus one hour conference.

Chemistry 383 — Dynamics, Equilibrium, and Physical Methods. To be taken concurrently with the first semester of physical chemistry lecture, and subsequent to Chemistry 281. One four-hour laboratory per week, plus one hour conference.

Chemistry 385 — Chemical Fundamentals. To be taken concurrently with the second semester of physical chemistry lecture, following Chemistry 383. Two four-hour laboratory periods per week plus two one-hour conferences.

Chemistry 281 is, of course, preceded by a year of general chemistry, in which the laboratory work is oriented toward *quantitative* testing of chemical principles. The core laboratory program is designed to provide an integrated, coherent introduction to modern laboratory techniques in a variety of contexts.

The laboratory work is interdivisional in character; the student is thus exposed to a greater breadth of material in the course of the three-semester sequence. He learns that techniques are not special to one area of chemistry, but rather that the application of principles to laboratory problems is general. By integrating and coordinating the content of the three courses, needless duplication of effort is avoided. Finally, the new program involves the incorporation of modern instrumental methods as an integral part of the laboratory experience.

The context of these courses in the overall curriculum for students in chemistry is most readily seen by perusal of the curriculum as published in the Undergraduate Study catalog.

FIRST YEAR	FIRST SEMESTER	16 HOURS
Chem. 107 — General Chemistry.....		5
Math. 122 — Analytic Geometry.....		4
Rhet. 101 — Rhetoric and Composition.....		3
Electives.....		4
Physical Education.....		1
	SECOND SEMESTER	17 HOURS
Chem. 108 — General Chemistry and Qualitative Analysis.....		5
Math. 132 — Calculus.....		5
Physics 106 — General Physics (Mechanics).....		4
Rhet. 102 — Rhetoric and Composition.....		3
Physical Education.....		1

SECOND YEAR	FIRST SEMESTER	16 HOURS
Chem. 234 — Organic Chemistry.....		3
Chem. 281 — Structure and Synthesis.....		2
Language.....		4
Math. 142 — Calculus.....		3
Physics 107 — General Physics (Heat, Electricity, and Magnetism).....		4
Physical Education.....		1
	SECOND SEMESTER	16 HOURS
Chem. 336 — Organic Chemistry.....		3
Chem. 342 — Physical Chemistry.....		3
Chem. 383 — Dynamics, Equilibrium, and Physical Methods.....		2
Language.....		4
Physics 108 — General Physics (Wave Motion, Sound, Light, and Modern Physics).....		4
Physical Education.....		1
THIRD YEAR	FIRST SEMESTER	17 HOURS
Chem. 315 — Inorganic Chemistry.....		3
Chem. 344 — Physical Chemistry.....		3
Chem. 385 — Chemical Fundamentals.....		4
Electives.....		7
	SECOND SEMESTER	16 HOURS
Electives.....		16
FOURTH YEAR	FIRST SEMESTER	16 HOURS
Electives.....		16
	SECOND SEMESTER	16 HOURS
Electives.....		16

Undergraduate Awards

Scholarships and awards for outstanding graduate students have been common for a long time, but similar stimuli for undergraduates have been rare until recent years. Now, however, the Department of Chemistry and Chemical Engineering is able to present several excellent awards to its best students. These awards have come to us through the generosity of faculty, alumni, and industrial companies, and we are most grateful to them for what we hope will be continuing support. The competition for the awards is keen, and does a great deal to raise the standards of our classes. As every teacher knows, the tone of a class is greatly influenced by the top few students. If they are alert and eager, the whole class responds. It is because of this synergistic effect that awards for good students are so important.

There are four monetary awards for seniors in chemistry and chemical engineering. The Worth Huff Rodebush Award goes to two outstanding seniors,

and the Reynold Clayton Fuson Award to the senior who has shown the best development during his college years. The Kendall Award, which is supported through the generosity of the Kendall Company, is open to the senior member of Phi Lambda Upsilon who is judged to show the greatest promise in chemistry or chemical engineering. The Iota Sigma Pi Prize is given to the outstanding senior woman. The Rodebush and Fuson Awards are based on endowments which alumni and friends have contributed.

Other awards open to seniors are the Medal of the American Institute of Chemists and the Merck and Company Award. The latter consists of a copy of the Merck Index for each student chosen — usually one or two.

Although our Department is in the College of Liberal Arts and Sciences, seniors in chemical engineering are eligible for awards in the College of Engineering, and two such awards (the Hamilton Watch Company Award and the Lisle Abbott Rose Memorial Award) have come to our students in recent years.

The Eliot Ritchie Alexander Award is granted each year to the junior student in chemistry or chemical engineering with the highest academic average for the first two years of work. It consists of a chemical book and the engraving of the winner's name on a plaque which is displayed in the Chemistry Library. Also available to juniors is the Algernon DeWaters Gorman Award, which is a cash prize given every third year.

The Agnes Sloan Larson Awards, donated by Dr. and Mrs. Arthur Sloan in memory of Dr. Sloan's sister, are cash prizes which are awarded annually to the six sophomores who compiled the best academic averages in the freshman year.

The name of the outstanding freshman man in the chemistry or chemical engineering curriculum is engraved on the Alpha Chi Sigma Cup each year. Also for freshmen is the Chemical Rubber Company achievement award which goes to the freshman who does the most outstanding work in his first semester. It consists of a copy of the Chemical Rubber Handbook.

Recent Recognitions Which Have Come to Illini Chemists and Chemical Engineers

During the past year, alumni and staff members of our Department have been honored for their scientific work in a number of ways, and we can list here only those who have been granted national or international medals, certificates, or certificates during 1967 and 1968. Of the thirty-one awards granted this year by the American Chemical Society, three were won by alumni of our Department and one by a former staff member.

Theodore L. Cairns, who finished the work for his doctorate under the direction of Professor Adams in 1939, and is now Assistant Director of the Central Research Department of the du Pont Company, received the 1968

ACS Award for Creative Work in Synthetic Organic Chemistry sponsored by the Synthetic Organic Chemical Manufacturers Association.

The 1968 ACS Award in Polymer Chemistry, sponsored by the Witco Chemical Company Foundation, went to Charles G. Overberger, who wrote his thesis under the guidance of Professor Marvel in 1944.



Theodore L. Cairns.



Charles G. Overberger.

William J. Rutter, who received the 1968 ACS Award in Enzyme Chemistry sponsored by Charles Pfizer and Company, holds the double distinction of being an Illinois alumnus (Ph.D., 1952) and a former staff member in biochemistry (1955-65).

Elias J. Corey, winner of the Ernest Guenther Award in the Chemistry of



William J. Rutter.



Elias J. Corey.

Essential Oils and Related Products, sponsored by Fritzsche Brothers, was a member of the Illinois faculty from 1951 to 1959, but is now Professor of Chemistry at Harvard.

The University of Illinois did well in the competition for ACS awards in 1967, too, with Ralph Connor (B.S., 1929) winning the Priestley Medal, and Alfred Clark (Ph.D., 1935), the E. V. Murphree Award in Industrial and Engineering Chemistry sponsored by the Esso Research and Engineering Company. In addition, Karl Folkers (B.S., 1928) received the William H. Nichols Medal of the New York Section of the ACS, and Martin Karplus (Staff, 1955-60) was the Harrison E. Howe Lecturer.

During 1967, Harry G. Drickamer, Professor of Chemical Engineering and of Physical Chemistry, received the Alpha Chi Sigma award from the American Institute of Chemical Engineers and the Oliver E. Buckley Solid State Physics Prize from the American Physical Society.

Professor Thomas J. Hanratty, also of the chemical engineering staff, received the 1967 Professional Progress Award from the American Institute of Chemical Engineers.



Harry G. Drickamer.



Thomas J. Hanratty.

Dr. Max Peters, who was on our staff from 1951 to 1961, is President of the American Institute of Chemical Engineers this year, and Dr. Wallace Brode, who received his Ph.D. at Illinois in 1925, is President-Elect of the American Chemical Society. The two nominees for that position for next year, W. E. Hanford and Byron Riegel, were classmates at Illinois, taking doctor's degrees in 1935. Like Dr. Brode, both Dr. Riegel and Dr. Hanford did their research with Professor Adams.

The Roger Adams Fund

Throughout the years, the prestige of the University of Illinois has grown, and more and more students have sought to obtain their college education here. The University has not been able to accommodate all of the qualified students who sought admission, and has had to control the size of its student body by a gradual stiffening in admissions standards. Of the freshmen who entered the University last fall, a little more than 80 per cent came from the top quarter of their high school classes, and almost 20 per cent from the second quarter. Less than one per cent came from the lower half. The improvement in the quality of our students is really greater than these figures imply, for the high schools have been doing increasingly good work in recent years.

The University has responded to the rising excellence of its students in several ways. Thus, it has set up the James Scholar program and other honors programs, has granted college credit for knowledge demonstrated by Advanced Placement and proficiency examinations, and has sought to grant scholarships and prizes for demonstrated scholastic excellence. Through these and other methods we have been reasonably successful in attracting students of high quality. There are still many able students, however, who do not attend college because of the cost involved, and others who would normally attend Illinois, but are enticed to other schools because they are offered scholarships with which we can not compete. True, we do offer a considerable number of scholarships and awards, but the number is rather small for an institution the size of ours. We have been making every effort to build up our scholarship funds, and the Department of Chemistry and Chemical Engineering is now calling upon its alumni and friends for help. Simultaneously, we are honoring our former Head, Professor Roger Adams, by naming our scholarship fund in his honor. This is especially appropriate because he did so much, during his long tenure at Illinois, to raise the level of chemical education, not only in his own institution, but throughout the country. Professor Adams has received many well deserved honors, both in America and abroad, but our Department has never taken any action to show our appreciation of all that he has done for us. We feel that the establishment is a fitting, though inadequate, tribute to him.

The Roger Adams Fund was started only a few months ago by a letter to the men and women who did their thesis work under Professor Adams' guidance. The response has been enthusiastic, and, already, several thousand dollars has been contributed. We are now broadening our invitation to include all of the alumni of the Department. If you can contribute, please send your contributions to the University of Illinois Foundation, 224 Illini Union Building, marked "Roger Adams Fund." If your employer has a matching grant program, be sure to have its contribution similarly marked. All contributions are tax deductible, of course.

If, in later years, other needs of the Department exceed the needs for scholarships, the income from the fund may be used for such purposes. For the foreseeable future, however, it will all go to undergraduate scholarships. Thus, each of you has a triple opportunity to help high quality students who wish to become chemists, to aid your Department to attract them, and to honor Professor Adams.



Roger Adams.

UNIVERSITY OF ILLINOIS-URBANA



3 0112 084222535